



EPA Proposes Changes to Current Cleanup Plan

Lower Fox River/Green Bay Site

Northeast Wisconsin

November 2006

Public comment period

EPA will accept written comments on its proposed changes to the cleanup plan during a public comment period from Nov. 13 to Jan. 11, 2007. This fact sheet provides a pre-addressed form for you to send your comments to EPA. Comments must be postmarked no later than Jan. 11. There will be no comment period extension since this is beyond the 30-day requirement.

Public meeting

EPA will hold a public meeting to explain and answer questions about its proposed changes to the cleanup plan. We will also accept oral and written comments at the meeting.

Date: Dec. 5, 2006

Time: 7 p.m.

Place: Brown County Library
515 Pine St.
Green Bay

If you need special accommodations in order to attend this meeting, please contact Susan Pastor at least one week prior to the meeting, toll-free at:

(800) 621-8431, Ext. 31325
weekdays, 9 a.m. - 4:30 p.m.

EPA Web site

This fact sheet and other related documents can be found on the following EPA Web site:

www.epa.gov/region5/sites/foxriver

U.S. Environmental Protection Agency and Wisconsin Department of Natural Resources propose to modify the current cleanup plan for sections of the Lower Fox River/Green Bay site referred to as operable units (or OUs) 2 - 5. This includes areas of the river from Appleton to Green Bay contaminated with PCBs. (*See Lower Fox River site map on Page 2.*) In December 2002, a document called the record of decision was finalized, which included OU 2. A second document was approved in June 2003, which covered OUs 3-5. These documents describe the overall cleanup plan selected for those sections of the Lower Fox River and Green Bay. This cleanup plan primarily involved dredging of the river and bay and is called the ROD remedy. However, while designing the cleanup, engineers collected new information that has led EPA and DNR to consider making changes to the current cleanup plan. A summary of this new information can be found on Page 3.

EPA and DNR's proposed changes would combine capping with the dredging to reduce the amount of dredging required, especially in areas where new information found that dredging would be virtually impossible. A back-up option in the current cleanup plan allows for capping in some areas. This proposed cleanup plan, called the optimized remedy, would separate the site into much smaller areas allowing the cleanup to be customized to meet the particular conditions in each of those areas. The proposed plan would also allow the cleanup to be implemented faster and would make better use of limited landfill space. The proposed plan is detailed in a document called the basis of design report.¹ Another document called a technical memorandum has also been prepared, which provides more details on the proposed changes. These reports can be found in the site information repositories listed on the back page and online at www.epa.gov/region5/sites/foxriver.

EPA and DNR encourage the public to attend the public meeting (*see the shaded column to the left*) to learn more about the proposed changes. EPA and DNR could modify the proposed changes, choose a new plan, or not change the cleanup decision at all based on public comments. The approved cleanup plan will then be explained in a document called a ROD amendment.

¹Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act requires publication of a notice describing the proposed modifications to the cleanup plan. Information supporting the decision, such as the basis of design report, must also be made available to the public for comment. This fact sheet is a summary of information contained in the basis of design report for the Lower Fox River site. Please consult that document, which can be found at the locations listed on Page 7 of this fact sheet, for more detailed information.

Current plan

The current plan involves:

- dredging 7.6 million cubic yards (new estimate based on additional sampling) of sediment (mud) with PCB levels greater than 1 part per million (ppm is a form of measurement) from OUs 2-4
- pumping contaminated sediment through a temporary pipeline to settling basins (ponds)
- letting sediment settle naturally, pumping water from settling basins, treating the water and returning the treated water to the river
- pumping contaminated sediment through a pipeline to a landfill for final disposal
- dredging PCB-contaminated sediment in Green Bay near the mouth of the river.

This plan allows for the use of an engineered cap in limited areas if that proves to be less costly than dredging, or if dredging alone was not sufficient.

Engineered caps are covers placed over sediment in some locations and could be from 13 to 33 inches thick. They would consist of a combination of 6-15 inches of sand and 7-18 inches of stone.

Estimated cost: \$580 million

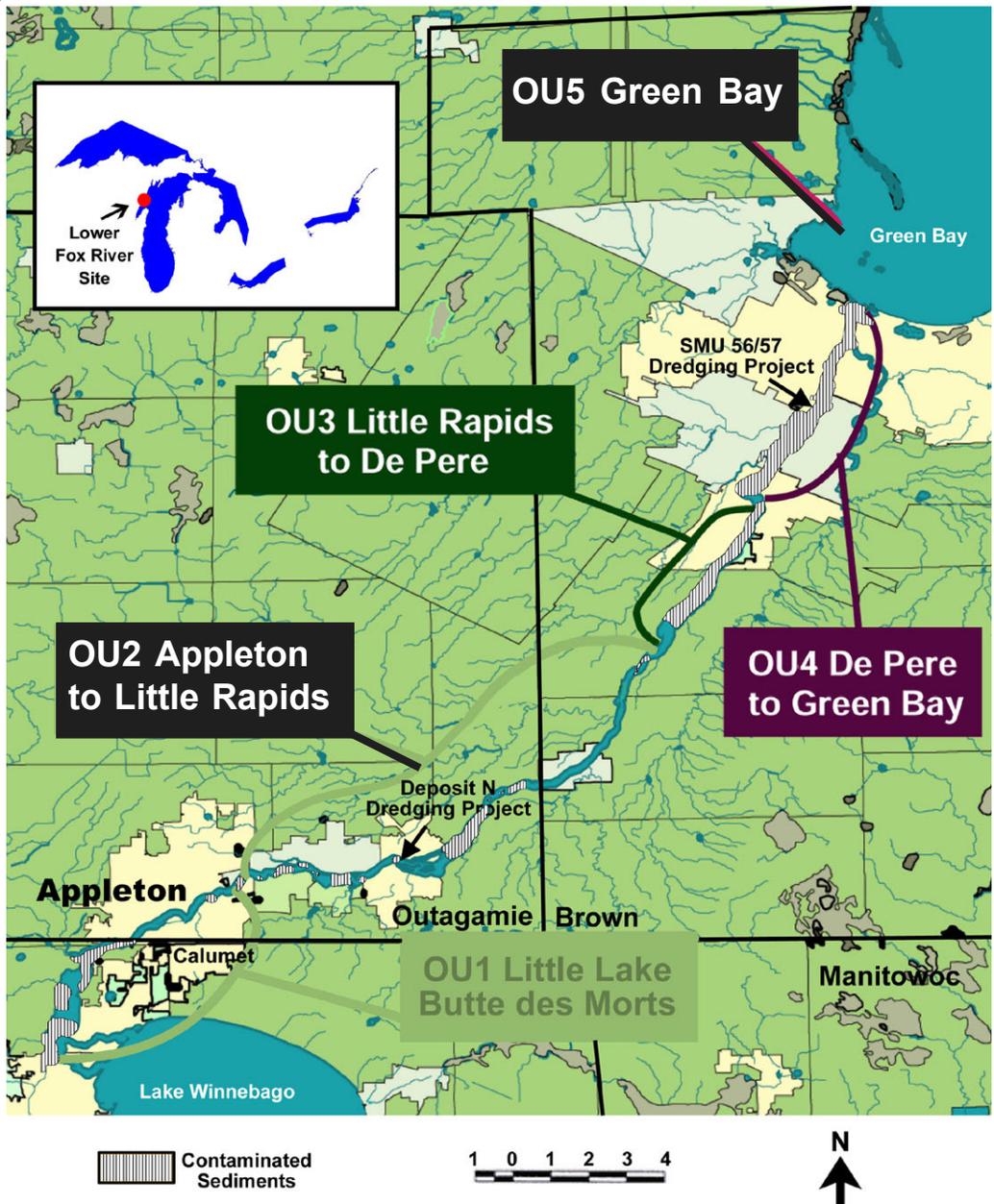
Completion time: Levels safe enough for wildlife are expected to be met within 20-100 years depending on the area.

By removing the contaminated sediment, EPA and DNR estimate the river will have an average PCB level well within the cleanup goal of .25 ppm.

Cleanup goal - .25 ppm for average PCB levels in sediment at the river's surface.

PCB action level (a concentration that identifies the need for a cleanup) - 1.0 ppm for PCB levels that would be addressed under both plans.

Lower Fox River Site Map



Proposed plan

The proposed plan is similar to the current plan, but adds the new information collected while designing the cleanup. The proposed plan still uses dredging to remove most of the PCBs in the river, but now includes the use of engineered caps and sand covers to accommodate the limitations of dredging. The new plan also customizes the cleanup to meet the specific conditions of much smaller areas. The proposed plan includes:

- dredging 3.7 million cubic yards of contaminated sediment from OUs 2-5
- separating the sand from the sediment and using it on and off the site to further reduce the amount of material placed in a landfill
- using a combination of capping and dredging in Green Bay near the mouth of the river
- using engineered caps in selected areas such as:
 - where dredging could cause damage to riverbanks
 - where contaminated sediment is deeply buried
 - in the navigational channel in OU 4 as long as the cap is at least 2 feet below the authorized level of the bottom of the navigational channel
 - near utilities when dredging in those areas could pose a risk to those facilities
- using sand covers as an alternative to dredging in areas where the maximum PCB level is less than or equal to 2 ppm and where the contaminated sediment layer is no thicker than 6 inches
- monitoring of the caps and covers to ensure that the contamination will not be released since some of the contamination will be left in place. If it is found that the caps or covers are not working, additional actions will be taken.

Estimated Cost: \$390 million

Completion time: The proposed plan would result in lower PCB concentrations after cleanup. EPA and DNR believe that it would take less time to reach a point when fishing advisories could be lifted and when the river and bay would be safe for wildlife.

Common features

Both plans include:

- using sand covers for certain areas that either have been dredged and still have levels over 1 ppm, or that have pre-dredging conditions similar to dredged areas
- imposing institutional controls such as fish advisories until the cleanup objectives are met
- monitoring the levels of PCBs in sediment, water and fish tissue
- using monitored natural recovery for the remainder of the bay.

New information

The investigation done while designing the cleanup involved taking 10,000 sediment samples at more than 1,300 locations. Additional information showed that:

- PCBs are not uniformly spread throughout the site but tend to be concentrated in smaller, definable areas.
- A small deposit of sediment near the surface that is highly contaminated with PCBs has been identified downstream and west of the De Pere Dam.
- Deeply buried contaminated sediment is present at depths between 6 to 13 feet below the river bottom in the middle stretches of OU 4 and in the Fort Howard turning basin. Relatively cleaner sediment lies over these areas.
- Contaminated sediment was detected in several developed shoreline areas downstream of the De Pere Dam. In these areas, it may not be feasible to dredge all buried contaminants because dredging could damage riverbanks and structures along the shoreline.
- Several areas in the site have a relatively thin layer (often only 4 inches) of sediment that just barely exceeds 1 ppm of PCBs.
- The limitations of modern dredging equipment in removing contaminated sediment have recently been documented.
- There is limited landfill space and no regional landfill has enough space to accept the amount of sediment that would be dredged under the existing cleanup plan.

Comparing the cleanup alternatives

EPA evaluated the cleanup alternatives against seven of the nine evaluation criteria. (See “Explanation of the nine evaluation criteria” on Page 7.) The state and community acceptance criteria will be evaluated after public comments are received by EPA. The degree to which the cleanup alternatives meet the evaluation criteria, as determined by EPA, is shown in the table below. Both plans provide overall protection of human health and the environment and comply with state and federal laws.

Though the two plans involve different mixes of technologies, both provide comparable levels of long-term effectiveness, permanence, and reduction of toxicity, mobility, and volume. However, the proposed plan can be done faster than the current plan, providing better short-term effectiveness. The proposed plan will also achieve a lower PCB concentration in sediment in less time. The proposed plan is easier to do as it uses caps and covers in areas where dredging would be extremely difficult, relies on proven dewatering and transport methods, and needs less landfill space. It also can be

implemented at a lower cost. Both plans are designed to meet the goals and cleanup timeframe in the ROD and address all sediment that exceeds 1 ppm.

Site history

Between 1954 and 1971, paper mills in the Lower Fox River valley manufactured or recycled carbonless copy paper containing PCBs. Until the early 1970s, the mills discharged the PCBs into the Fox River where they settled into river sediment or were carried into Green Bay. Due to elevated levels of PCBs in fish tissue and a growing knowledge that PCBs were harmful to people and the environment, DNR issued fish consumption advisories for the river and Green Bay in 1976. These were followed by waterfowl consumption advisories for the river and Green Bay in 1987. Advisories remain in effect today.

Since the mid-1980s, a number of governmental and other organizations have studied the contamination problem. In 1997, six federal and state agencies and tribal governments signed an agreement to work together to clean up and restore the Lower Fox River.

Evaluating the cleanup alternatives

Evaluation Criteria	Current Plan	Proposed Plan
Overall Protection of Human Health and the Environment	■	■
Compliance with ARARs	■	■
Long-Term Effectiveness and Permanence	■	■
Reduction of Toxicity, Mobility, or Volume through Treatment	■	■
Short-Term Effectiveness	■	■
Implementability	■	■
Cost	\$580 million	\$390 million
State Acceptance	Will be evaluated after the comment period.	
Community Acceptance	Will be evaluated after the comment period.	

■ = Meets Criteria

□ = Does Not Meet Criteria

Lower Fox River Site Comment Sheet

Detach, fold, stamp, and mail

Name _____
Address _____
City _____ State _____
Zip _____

Place
Stamp
Here

Susan Pastor
Community Involvement Coordinator
Office of Public Affairs (P-19J)
EPA Region 5
77 W. Jackson Blvd.
Chicago, IL 60604-3590

Explanation of the nine evaluation criteria

EPA uses the following nine criteria to evaluate the cleanup alternatives. A table comparing the alternatives against these criteria is provided on Page 4.

- 1. Overall Protection of Human Health and the Environment** Evaluates whether a cleanup option provides adequate protection and evaluates how risks are eliminated, reduced or controlled through treatment, engineering controls or local government controls.
- 2. Compliance with Applicable or Relevant and Appropriate Requirements** Evaluates whether a cleanup option meets federal and state environmental laws, regulations and other requirements or justifies any waivers.
- 3. Long-Term Effectiveness and Permanence** Considers any remaining risks after a cleanup is complete and the ability of a cleanup option to maintain reliable protection of human health and the environment over time once cleanup goals are met.
- 4. Reduction of Toxicity, Mobility, or Volume Through Treatment** Evaluates a cleanup option's use of treatment to reduce the harmful effects of the contaminants, their ability to move in the environment and the amount of contamination present.
- 5. Short-Term Effectiveness** Considers the time needed to clean up a site and the risks a cleanup option may pose to workers, the community and the environment until the cleanup goals are met.
- 6. Implementability** Is the technical and administrative feasibility of implementing a cleanup option and includes factors such as the relative availability of goods and services.
- 7. Cost** Includes estimated capital and annual operations and maintenance costs as well as the present worth cost. Present worth cost is the total cost of an alternative over time in terms of today's dollar value.
- 8. State Acceptance** Considers whether the state (in this case Wisconsin) agrees with EPA's analyses and recommendations as described in the basis of design report and EPA's proposed cleanup plan.
- 9. Community Acceptance** Considers whether the local community agrees with EPA's analyses and proposed cleanup plan. The comments that EPA receives on its recommendation are an important indicator of community acceptance.

The next step

EPA, in consultation with DNR, will evaluate public comments received during the public comment period before deciding whether to amend the cleanup plan for the site. EPA encourages you to review and comment on the cleanup options. EPA will respond to the comments in a document called a responsiveness summary. The responsiveness summary will be a part of the final decision document called the ROD amendment that describes the final cleanup plan selected for the site. EPA will announce the final cleanup plan in the local newspaper and will send a copy of the amendment to the information repositories for the site where it will be available for public review. It will also be posted at www.epa.gov/region5/sites/foxriver. After a final cleanup plan is chosen, it will be designed and implemented.

Official records

Copies of the ROD amendment, basis of design report and other documents related to the Lower Fox River cleanup will be available in the reference sections of:

- **Appleton Public Library**, 225 N. Oneida St., Appleton
- **Brown County Library**, 515 Pine St., Green Bay
- **Door County Library**, 104 S. Fourth Ave., Sturgeon Bay
- **Oneida Community Library**, 201 Elm St., Oneida
- **Oshkosh Public Library**, 106 Washington Ave., Oshkosh

An administrative record, which contains detailed information upon which the selection of the cleanup plan will be based, is available at the DNR Northeast Region office, 2984 Shawano Ave., Green Bay, Wis.; DNR Bureau of Watershed Management, 2nd Floor, 101 S. Webster St., Madison, Wis.; and the EPA Records Center, 7th Floor, 77 W. Jackson Blvd., Chicago, Ill.

For more information

For more information about the Lower Fox River/Green Bay site cleanup, please contact:

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